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SUBJECT: Unity Dam on Syria-Jordan Border Storing 3 MCM of Water, 107 MCM of Air

11. (SBU) Summary: The Al Wehdah (Unity) Dam on the Yarmouk River along the Jordan-Syria border was completed in November 2006. The dam can store 110 million cubic meters (MCM) of water, but it currently holds only 3 MCM. When filled, the reservoir is designed to supply 50 MCM of drinking water to Amman and 30 MCM of irrigation water to the Jordan Valley per year. According to Jordanian officials, reservoirs in Syria and groundwater withdrawals by both Syria and Jordan have reduced the flow on the Yarmouk, thus making it questionable whether the dam can be filled or not. High-level political dialogue between Syria and Jordan on water will be needed to ensure the reservoir gets filled. End summary.

## A Long Awaited Project

- 12. (U) Background: The dam is roughly 16 miles due east of the southern tip of Lake Kinneret (the Sea of Galilee) on the Yarmouk River. The Yarmouk is the largest tributary of the Jordan River and is the primary surface water resource for Jordan. The Yarmouk originates in Syria and runs for 25 miles along the Syrian Jordanian border and the Golan Heights before feeding into the Jordan River 6 miles below Lake Kinneret (the Sea of Galilee) in northern Israel. Of the 2,800 square mile Yarmouk watershed, roughly 80% is in Syria (including the Golan Heights) and 20% is in Jordan. The Yarmouk has historically contributed about 450 MCM of flow to the Jordan River per year but that level has dropped dramatically over the past decades.
- 13. (U) There have long been plans to build a reservoir on the Yarmouk to capture winter storm flow, but financial and political difficulties hindered the project until recently. Original plans for a dam on the Yarmouk date back to the 1950s. In 1975, Jordan, with the help of USAID, conducted the initial feasibility study for the dam at the Maqarin site, six miles above the point where the right bank of the Yarmouk comes under Israeli control. The project was postponed until 1989 and the dam was renamed Al Wehdah (Unity) in a nod to hoped-for Jordan-Syria cooperation. More delays plagued the project and it was not until May 26, 2003 that construction on the Unity Dam began. The diversion tunnel was closed and the dam began filling in November 2006. END BACKGROUND.

Dam Completed but Reservoir is Empty

14. (U) The Unity Dam creates Jordan's largest (potential) reservoir. The dam is 282 feet (86 meters) high from the foundation

and has a capacity of 110 MCM. According to officials from the Jordan Valley Authority, the reservoir, once filled, will yield about 80 MCM per year: 30 MCM for irrigation - enough to irrigate 400 square miles of Jordan Valley agricultural land - and 50 MCM to Amman for drinking water. The Jordan National Water Master Plan indicates that the real value of the dam will be to create more reliable flows on the Yarmouk by supplementing the summer deficit with stored winter flood waters. The project cost approximately \$95 million and was financed primarily by a loan from the Arab Fund for Economic and Social Development. Jordan plans to construct a second stage of the dam in the future that will raise its height to 381 feet (116 meters), increase reservoir capacity to 225 MCM and incorporate a hydroelectric generator with an average output capacity of 18,800 megawatt hours per year. Syria will get most of the hydroelectricity production but only if the second stage of the project is completed.

15. (U) The dam only recently began collecting water and is currently storing a mere 3 MCM of water, less than 3% of its capacity. Managers are hoping the winter flood season will significantly raise the level of the reservoir. However, over the past twenty years, new Syrian reservoirs upstream of the dam have diminished annual peak flows, and ground water withdrawals in both Syria and Jordan have decreased base flow in the Yarmouk Basin, say Jordanian water officials. Post also understands that Syria has undertaken soil conservation programs in the Yarmouk that may decrease the water flow in the Yarmouk. The historic discharge at the dam is about 160 MCM per year, but that amount of flow has not occurred since the early 1990s.

Dam Agreement Between Syria and Jordan

16. (SBU) In order to secure sufficient discharge to fill the Unity Dam and maintain Yarmouk flows, Jordan has begun talking with Syria but with little result. An agreement between Jordan and Syria concerning the Yarmouk was signed in 1987. It established Jordan's right to build the Unity Dam and utilize the stored flow. The 1987 agreement limited Syrian storage in the watershed to 25 dams - that were in place at the time - with a capacity of 156 MCM. However, since that agreement, Syria has developed more of the Yarmouk Basin, and JVA estimates there are now 42 small dams and many more wells in the Syrian portion of the watershed. Of course Jordan also has drilled new wells on its side which affect the flow.

17. (SBU) Comment: The Unity Dam will not have a major impact on Jordan's water supply in the near term. In order to maximize the potential of the structure, both Jordan and Syria will have to limit groundwater extraction and make more surface flows available. Jordan has not yet exercised sufficient political leverage to get Damascus to make available significant new quantities of water for the Unity Dam. Any actions affecting water flows on the Yarmouk will need top-level political involvement in both capitals.

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